REMARKS

The foregoing amendments are effected to the divisional application of Serial No. 09/870,152 filed January 16, 2004.

The specification of the divisional application has been amended consistent with the parent application.

In addition, claims 1-4 of the parent application have been cancelled and new claims 5-20 have been added. New claims 5-20 are directed to the method for producing a polypropylene resin molding composite for an automobile according to the present invention. New claims 5-8 are supported by original claims 1-4. New claims 9-10 correspond to claim 2 of the parent application. New claims 11-12 are supported at page 10, last paragraph of the specification. New claims 13-14 are supported on page 15, first paragraph of the specification. New claims 15-16 are supported at page 15, second paragraph of the specification. New claims 17-18 are supported at page 13, lines 6-10 of the specification. New claims 19-20 are supported at page 5, line 7 of the specification.

It is respectfully submitted that the subject matter of the new claims is patentably distinct over the teachings of the references cited by the Examiner in the parent application. In addition, the wording of the new claims overcomes the rejection of the claims of the parent application under 35 USC 112, second paragraph.

Regarding the 112 rejection of the parent claims, the new claims do not recite the term "L/D".

Regarding the 103 rejection, the claims are unobvious from the teachings of Shioya et al. in view of JP 10-077359 and Tokoro et al. for the following reasons.

The method of the present invention comprises the step of heating the thermoplastic resin expanded particles at a heating temperature lower than a melting point of the polypropylene resin of the core, higher than a melting point of the polyethylene resin of the coat and being 130°C or lower, to generate the foam layer (12), to fusion-bond the foam layer and the cushioning material (11b) (and to fusion-bond the foam layer (12) and the base member (13)).

having a grain pattern and a laminate of a cushioning material (11b), wherein the cushioning material (11b) is a polypropylene resin expanded sheet having a compressive hardness of 0.1 MPa or higher and a melting point of 130° or higher,

providing thermoplastic resin expanded particles, comprising a core made of a polypropylene resin and being in an expanded state, and a polyethylene resin coat covering the core and being in a substantially non-expanded state, wherein the polyethylene resin of the coat has a melting point of 125°C or lower and of 10°C or lower than the melting point of the polypropylene resin constituting the core,

placing the surface layer (11) and the base member (13) in a mold,

filling the thermoplastic resin expanded particles between the cushioning material (11b) and the base member (13),

heating the thermoplastic resin expanded particles at a heating temperature lower than a melting point of the polypropylene resin of the core, higher than a melting point of the polyethylene resin of the coat and being 130°C or lower, to generate the foam layer (12), to fusion-bond the foam layer (12) and the cushioning material (11b) and to fusion-bond the foam layer (12) and the base member (13), and

obtaining the polypropylene resin molding composite having a grain pattern on the surface layer of the polypropylene resin (11a).

7. (New) The method for producing a polypropylene resin molding composite for an automobile according to claim 5, wherein the polyethylene resin coat is a polyethylene resin that substantially exhibits no melting point.

8. (New) The method for producing a polypropylene resin molding composite for an automobile according to claim 6, wherein the polyethylene resin coat is a polyethylene resin that substantially exhibits no melting point.

9. (New) The method for producing a polypropylene resin molding composite for an automobile according to claim 5, wherein the thermoplastic resin expanded particles have an average particle diameter of 1.5 to 4.0 mm.

10. (New) The method for producing a polypropylene resin molding composite for an automobile according to claim 6, wherein the thermoplastic resin expanded particles have an average particle diameter of 1.5 to 4.0 mm.

11. (New) The method for producing a polypropylene resin molding composite for an automobile according to claim 5, wherein the particles are heated by steam.

12. (New) The method for producing a polypropylene resin molding composite for an automobile according to claim 6, wherein the particles are heated by steam.

13. (New) The method for producing a polypropylene resin molding composite for an automobile according to claim 5, wherein the polypropylene resin expanded sheet has a thickness of 1 to 4 mm.

14. (New) The method for producing a polypropylene resin molding composite for an automobile according to claim 6, wherein the polypropylene resin expanded sheet has a thickness of 1 to 4 mm.

15. (New) The method for producing a polypropylene resin molding composite for an automobile according to claim 5, wherein the polypropylene resin expanded sheet has an expansion magnification of 10 to 30 times.

The molding composite obtained by the method of the present invention has a structure that is formed by fusion-bonding the foam layer (12) formed by the thermoplastic resin expanded particles with the cushioning material (11b) of the surface layer (11) (and the base material (13)). By the existence of the cushioning material (11b), stress absorbing effect between the surface layer (11) and the foam layer (12), and heat insulating effect for the surface layer (11) when molding are desired, accordingly, a grain pattern of the surface layer (11) is not erased and there is an effect that the surface layer (11) and the foam layer (12) do not come off with the time (see pages 17-17 of the specification).

That is, the method for producing a polypropylene resin molding composite for automobile of the present invention is characterized by using a specific surface layer (11) and a specific thermoplastic resin expanded particles for the foam layer (12). Thereby, molding by the method of the present invention can be performed with a comparatively low temperature and low pressure steam. In the case of molding with the comparatively low temperature and low pressure steam, a heavy mold that has a structure capable of resisting a high pressure steam used for molding of hitherto expanded resin particles is not necessary, and consumption of thermal energy is small. If the surface layer (11) and the thermoplastic resin expanded particles are molded integrally in a mold, poor fusion-bonded affected by moisture of steam is decreased, thereby fusion-bonded affected by moisture of steam is decreased, thereby fusion-bonding strongly the cushioning material (11b) of the surface layer (11) and the coat of thermoplastic resin expanded particles (see page 12, lines 9-18 of the specification).

The combination of a specific surface layer (11) comprising a specific surface layer of the polypropylene resin (11a) and a specific laminate of a cushioning material (11b) which has a specific compressive hardness and melting point, a specific thermoplastic resin expanded particles for the foam layer (12), which have a specific structure and melting points, and molding condition using a comparatively low temperature and low pressure steam can make the molding composite have a grain pattern on the surface layer of the polypropylene resin (11a) of the surface layer (11).

It would have been unobvious for one having ordinary skill in the art to achieve the combination of the present invention.

None of the cited references disclose or teach the features and the effects of the present invention.

In view of the above discussions, the combination of the Shioya reference, JP '359 and Tokoro et al. does not render Applicants' currently claimed invention obvious.

In view of the foregoing, favorable action on the merits is solicited.

Respectfully submitted,

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